

# Moving from Waste Management to Resource Management

## Regional Waste Management Strategy and Action Plan for Zone 6 & 7, Maldives

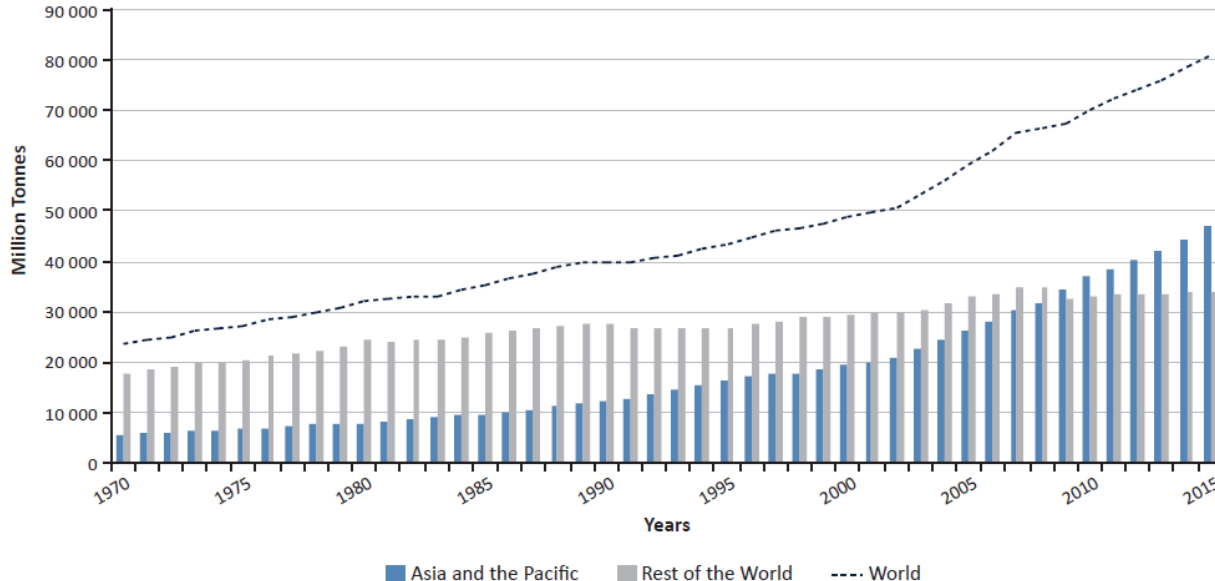
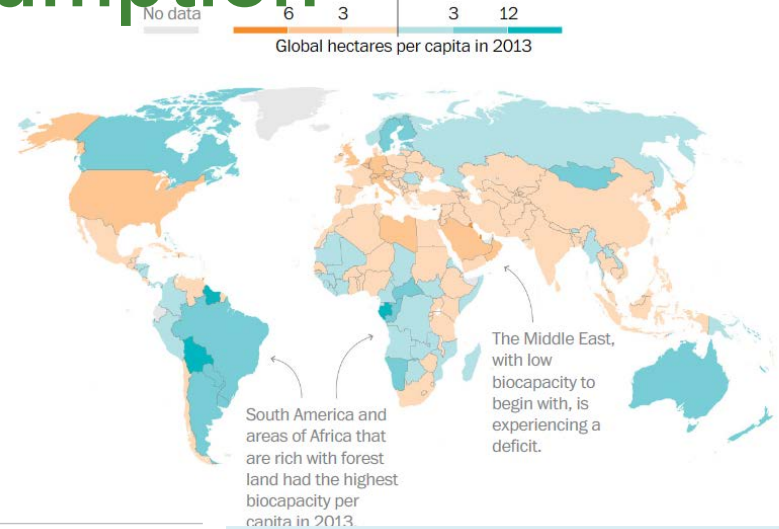
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# Increasing use of natural resources and material consumption

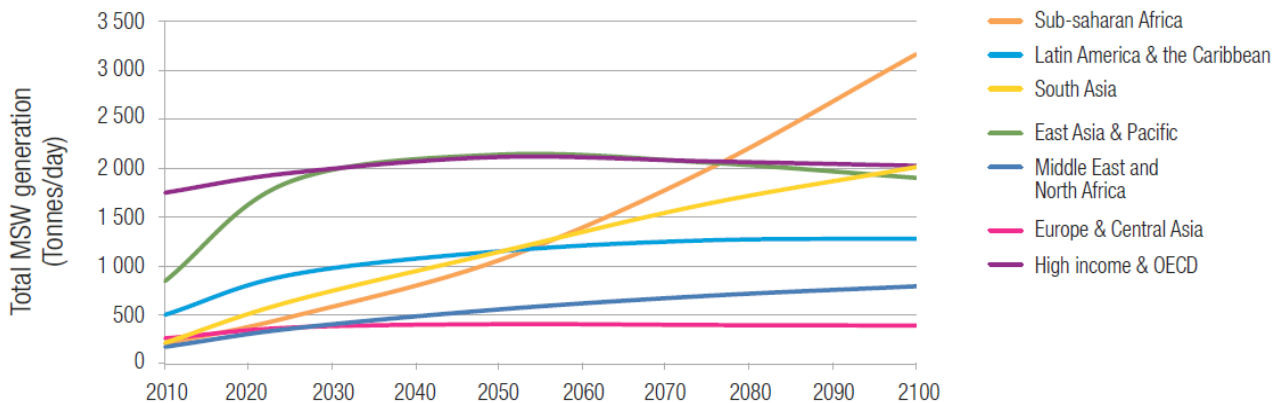
**The world's population would need 1.7 Earths to support its demands on renewable natural resources.**

(The [Global Footprint Network](#), a non-profit organization that calculates human demands on the planet's ecosystems, 2013)



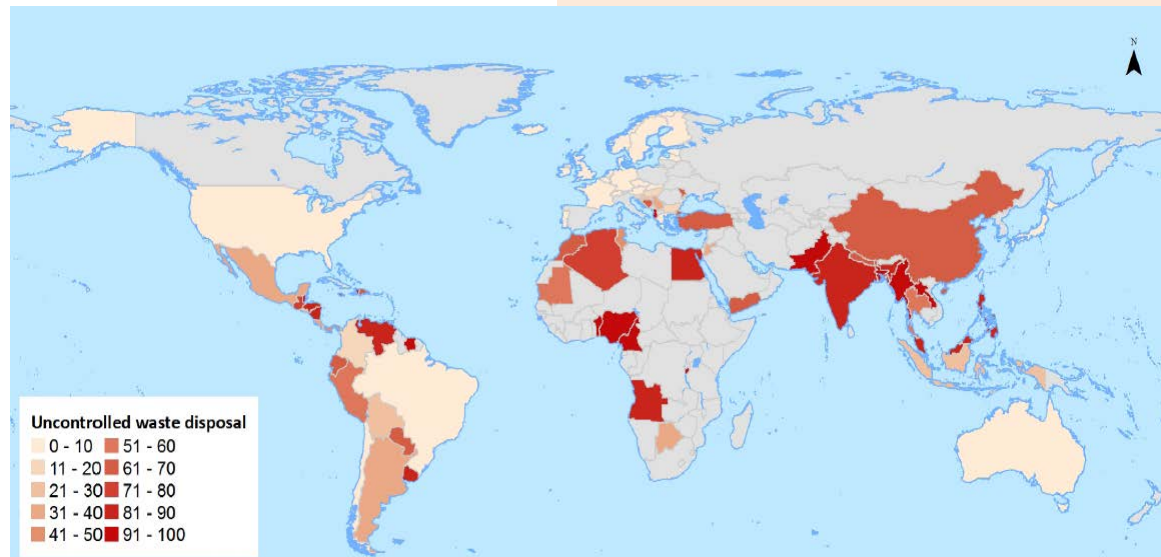
**Asia and the Pacific region's material consumption has increased sharply over the past four decades, accounting for more than 50% of world consumption in 2015.**  
(UNEP – GEO 6, 2016)

# Increasing generation of municipal waste and uncontrolled disposal



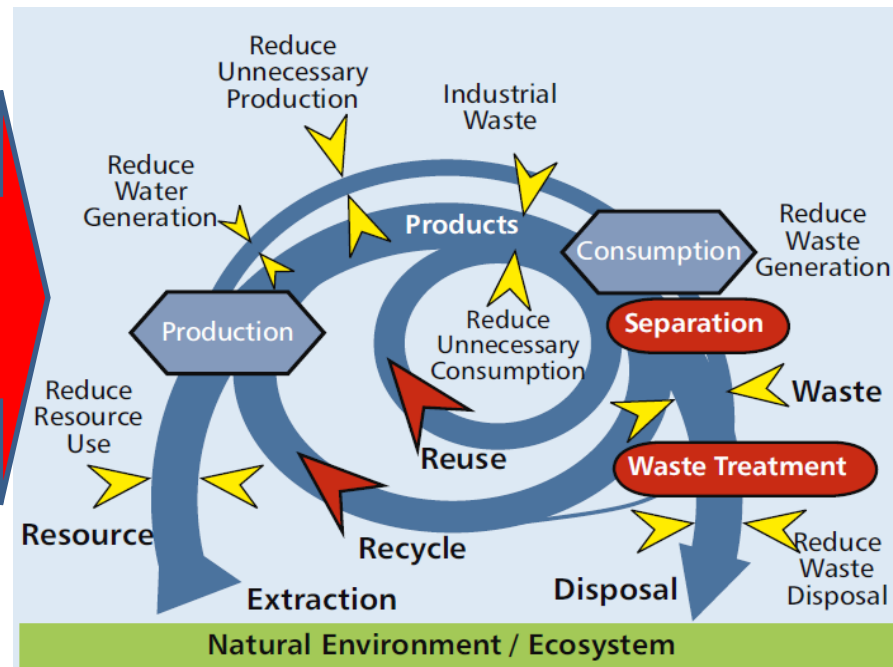
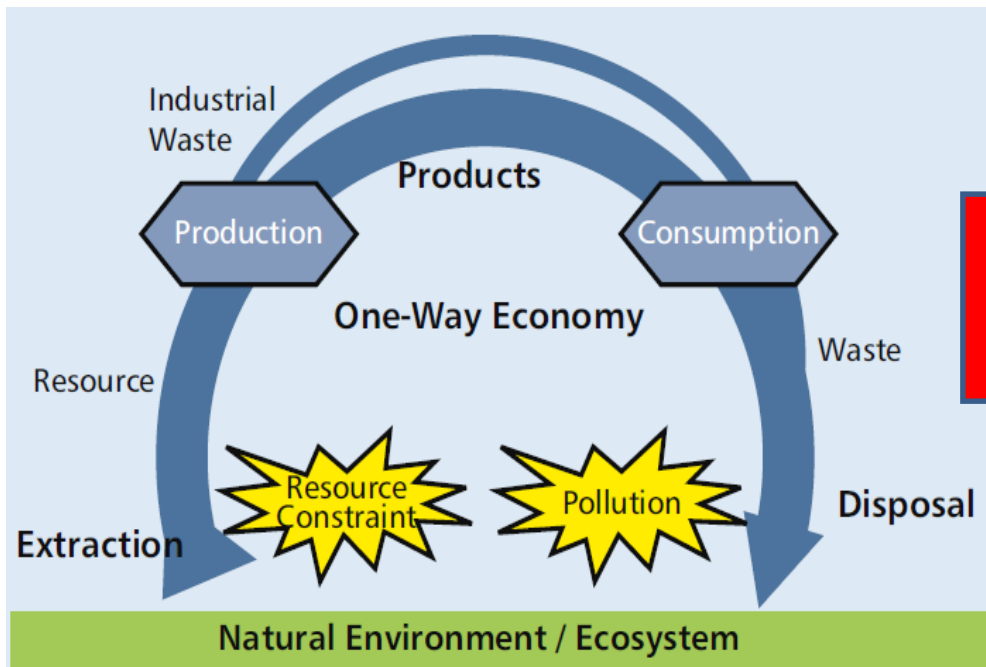
**Waste generation in Asia and the Pacific is rising and new and complex waste streams are emerging.**  
(The *Global Waste Management Outlook*, (UNEP and ISWA 2015)).

**Inadequate waste treatment and disposal can cause pollution and environmental and ecosystem degradation.**  
(UNEP – GEO 6, 2016)

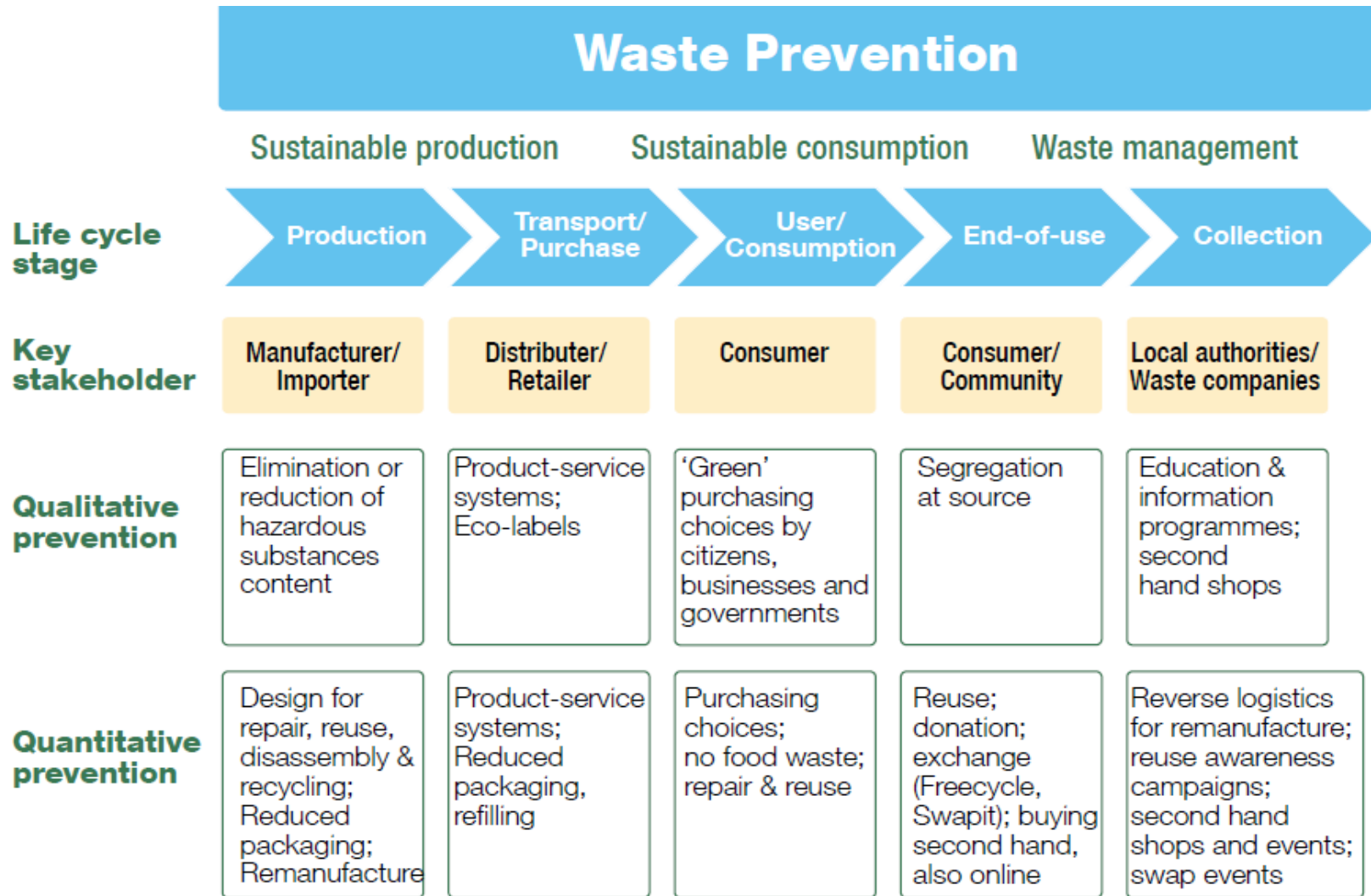


# Transforming from waste management to resource management

- From a *linear (one - way)* economy and waste management (end-of-pipe) to *circular-economy* and resource management based on waste hierarchy/3Rs (reduce, reuse and recycling (ADB and IGES, 2007))

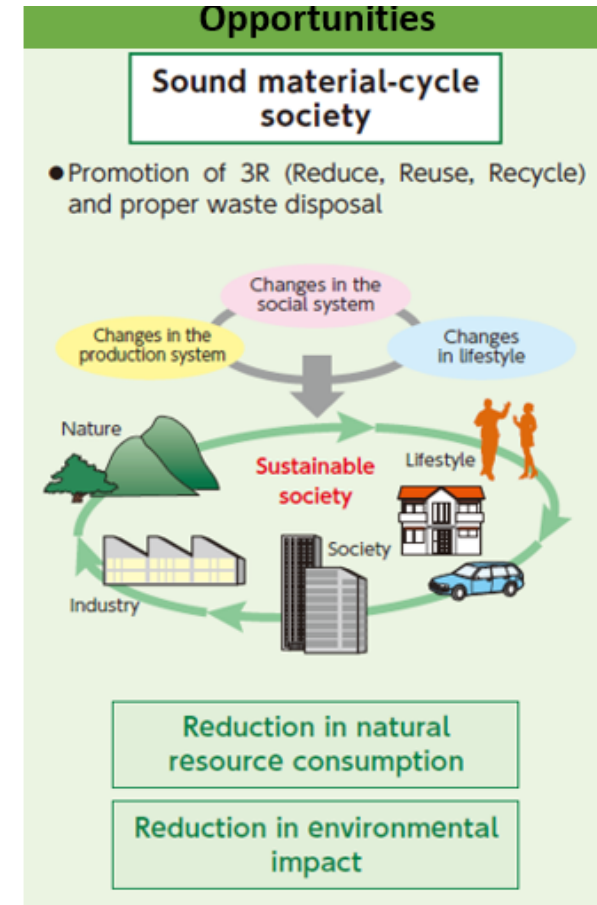
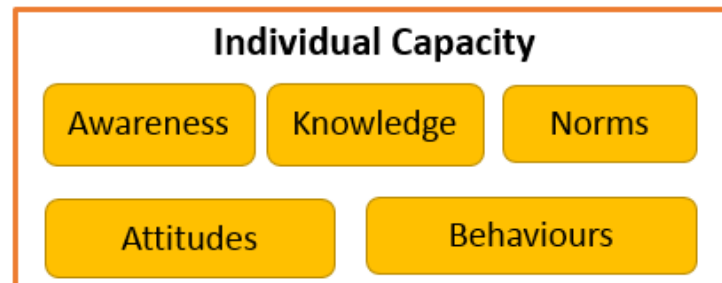
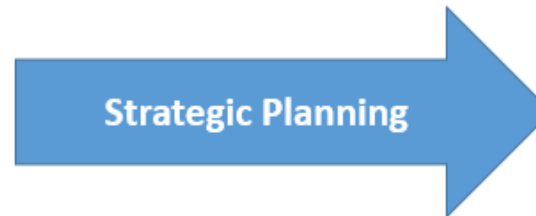
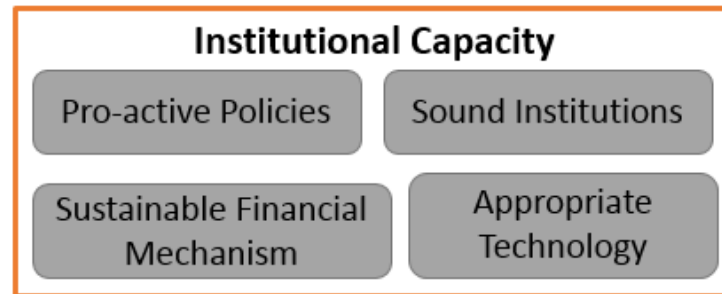
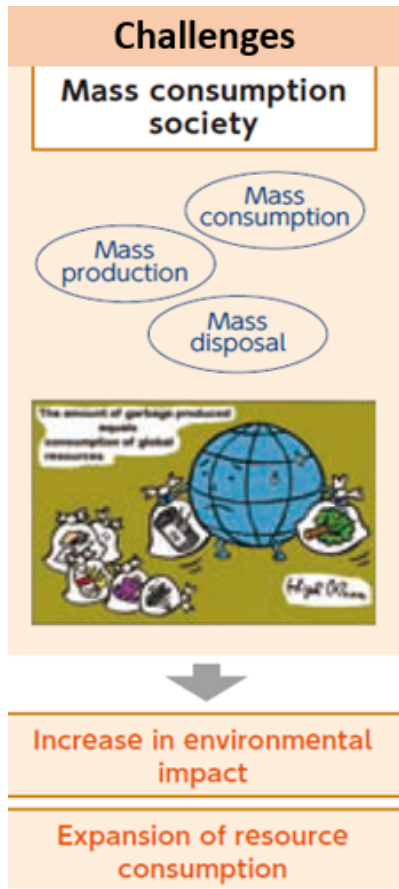


# Lifecycle (LCA) and Integrated (ISWM) Approach



Inspired by Cox et al (2010); ISWA and UNEP (2015)

# Strategic planning helps to decision/policy makers and practitioners to turn challenges to opportunities





# CCET provides technical assistance to Asian countries and their cities making this transformation (waste to resource management) with UNEP-IETC under the financial support of Government of Japan

## Our Work

Leveraging its expertise in resource and waste management, CCET is providing technical support to United Nations Environment Programme through its International Environmental Technology Centre for the establishment of a Global Centre of Excellence on Waste Management. This includes delivering scientific, technological and policy relevant knowledge, as well as enabling networking and collaboration with key domestic and international partners.

## 1. Strengthening Waste Management Policy and Institutions

By engaging in a consultative dialogue with key stakeholders, CCET assists partner governments with the development of national and local waste management policies and strategies that address solid, liquid and gaseous waste in an integrated and complementary manner.



### Myanmar

Waste management strategies and action plans developed by the Ministry of Natural Resources and Environment (MONREC) and Mandalay City Development Committee (MCDC) represent the country's first waste management policies enacted at respective national and city levels, demonstrating the political commitment that is necessary for expanding waste management services nationwide.



### Cambodia

Ongoing governance reforms in Cambodia are contributing to the decentralisation of the country's waste management sector. Against this backdrop, national and city waste management strategies currently being developed by Ministry of Environment (MoE) and Phnom Penh Capital City are expected to comprise the first policy framework on waste management since the restructuring, driving effective implementation on the ground.



### Maldives

CCET is assisting the Ministry of Environment and Energy (MEE) with developing a regional waste management strategy and action plan for the country's southern region, comprising 18 islands including the regional hub city of Addu. The strategy is expected to provide regional solutions, encouraging and complementing efforts led by individual islands to formulate their own waste management systems.



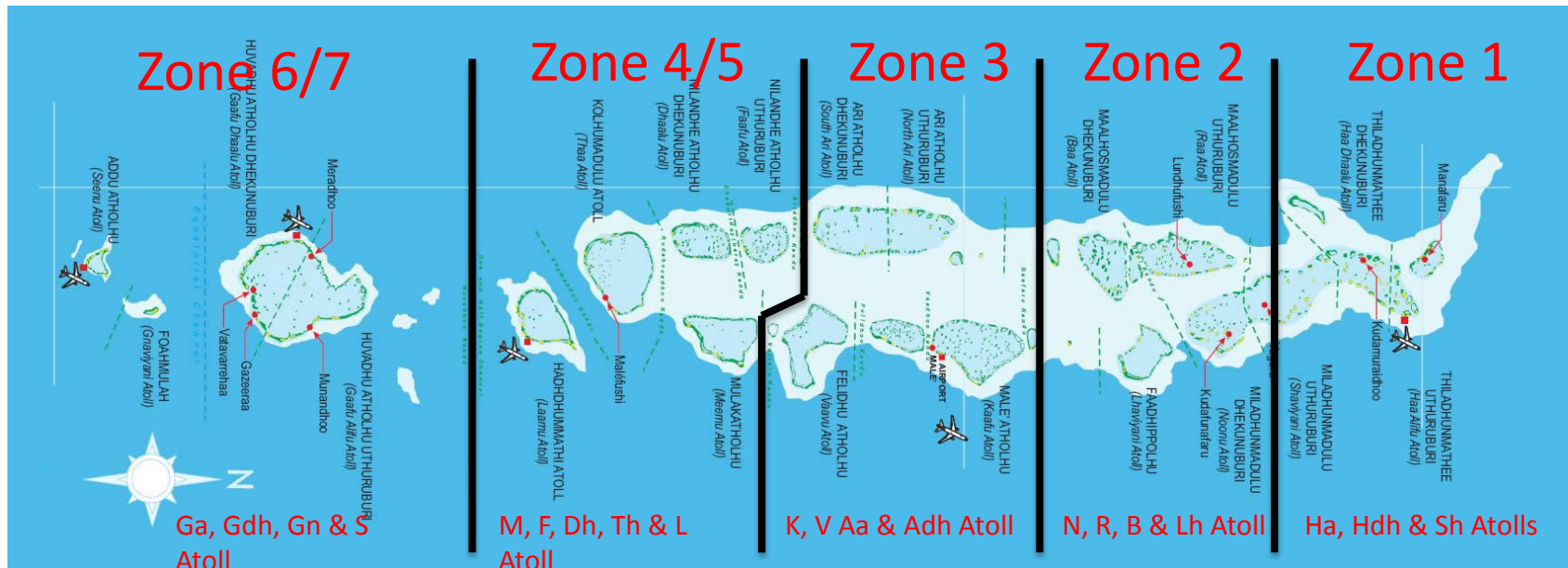
## 2. Building Capacity and Guiding Implementation



CCET also develops knowledge products such as case studies and policy recommendations, and conducts training courses (in-person and online) customised to specific capacity needs of policy makers and practitioners. A series of guidelines on selected waste management topics is now in the process of being launched with a view to enhance the planning and delivery of waste management operations through the introduction of systematic and stepwise approaches.

## 3. Generating Impacts through Partnerships and Networking

# Waste Management in Maldives – The Regional Waste Management Strategy for Zone 6 & 7

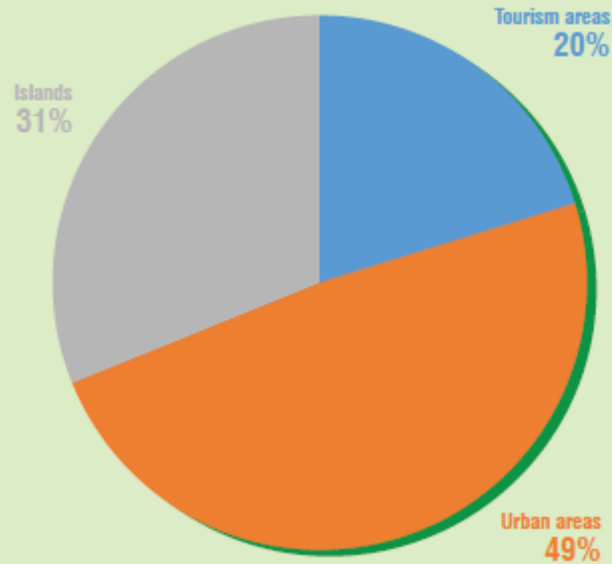




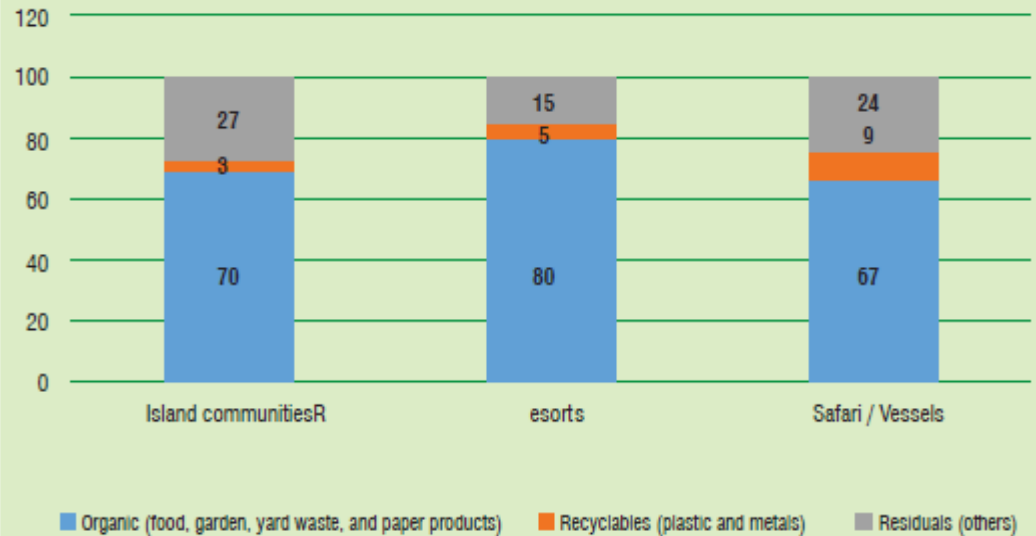
# An inclusive and consultative process with island councils and key stakeholders in developing a regional waste management strategy for zone 6 & 7



# Waste Management in Islands



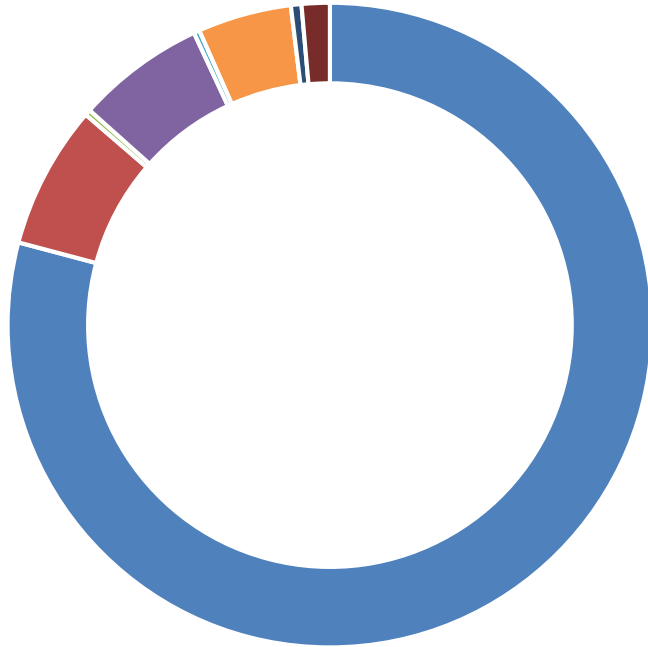
*Distribution of waste generation among key sectors, 2017*



*Waste composition based on island communities, resorts and safari/vessels, 2015*



# Waste Management in Islands

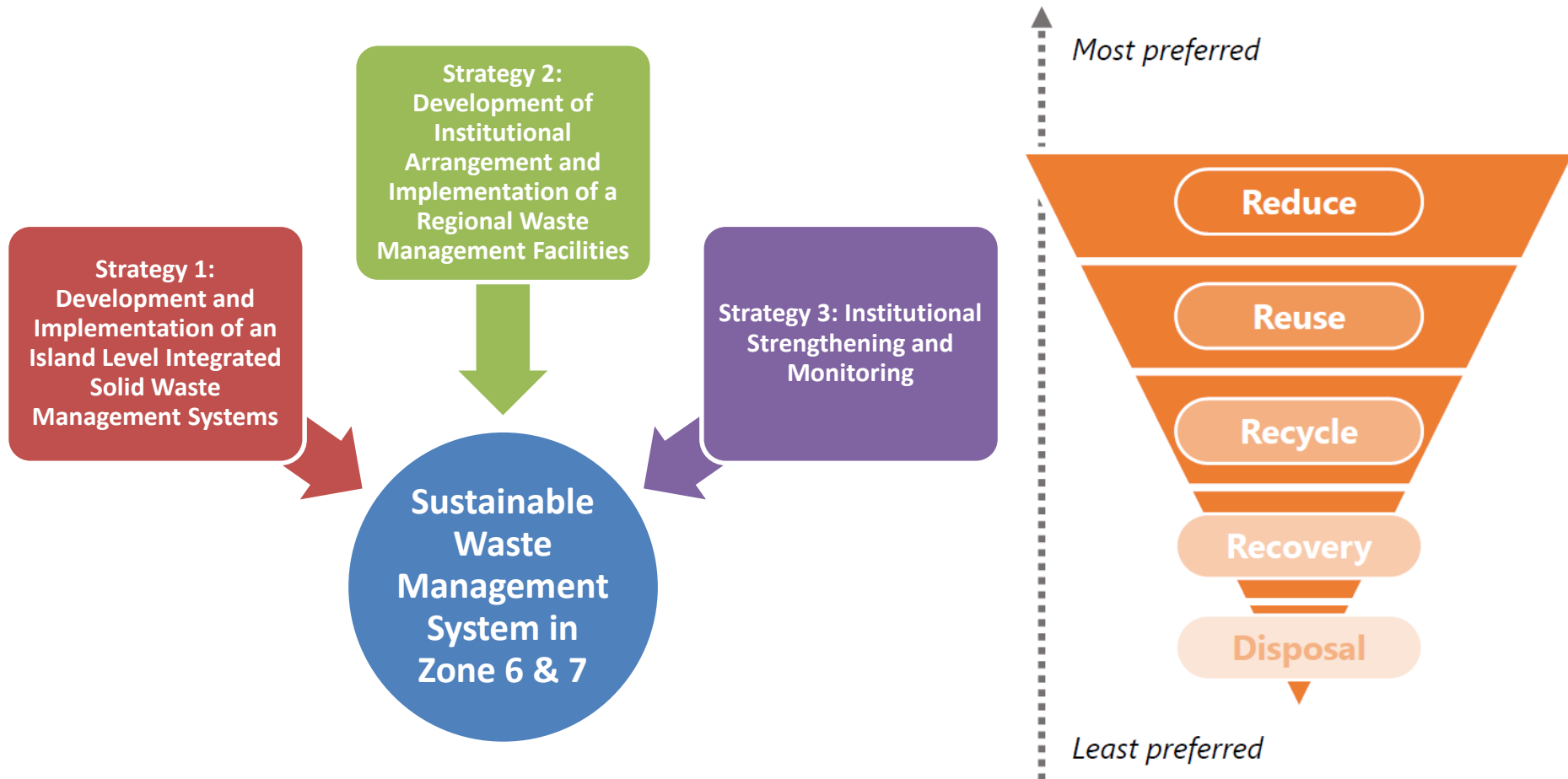


- Dump at the designated site
- Dump into the beach/seaside
- Taken to the land reclamation site
- Throw away to the bushes
- Bury in the house compound
- Burn in the house compound
- Burn using incineration
- Not stated

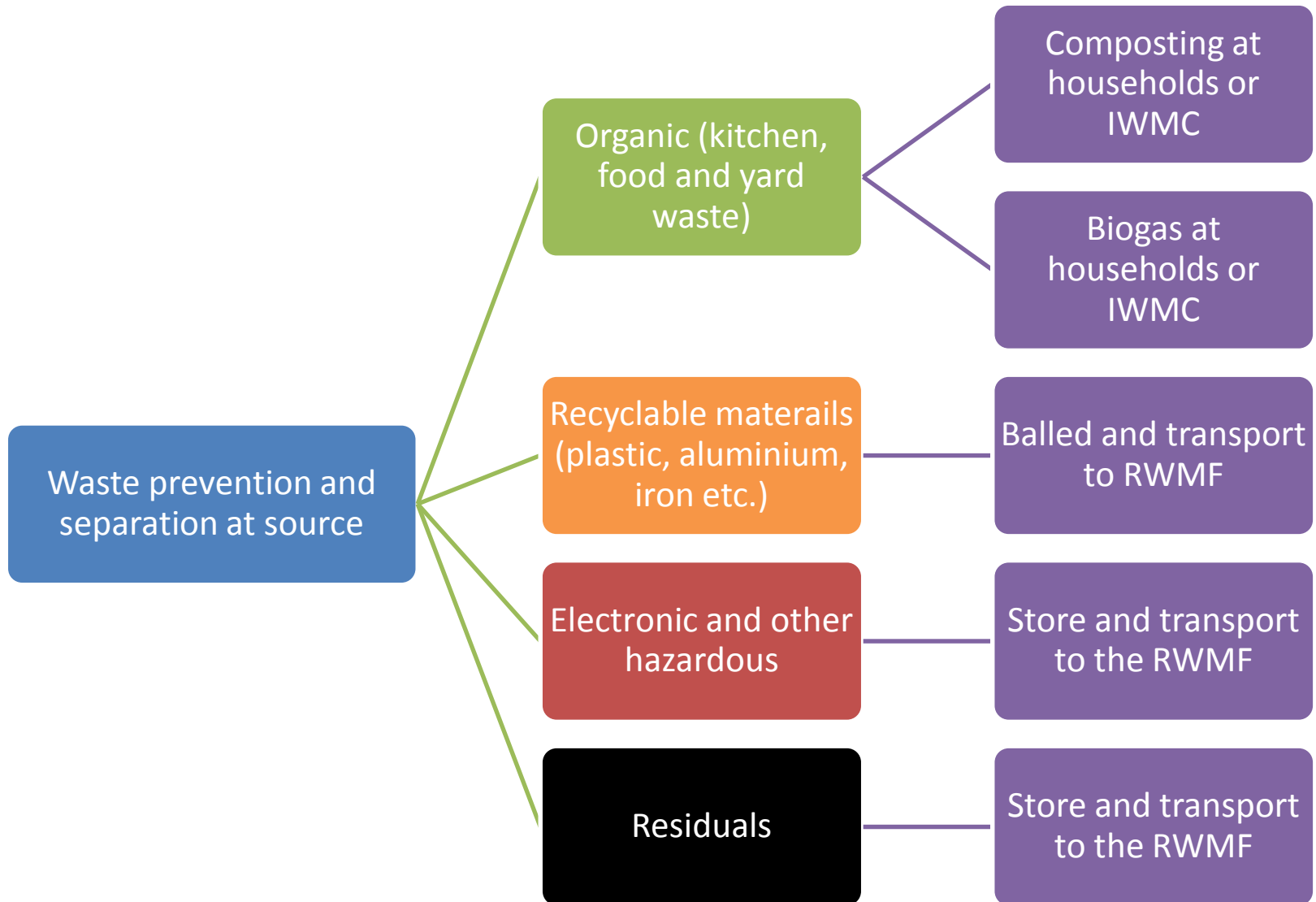
*Common method of solid waste disposal  
at household level, 2018*



# Proposed strategic actions based on waste hierarchy



# Implementation actions and technical guidelines





# Interconnection and cooperation between island, regional and central governments

## The Central waste administration

- The Central Waste Administration will plan, regulate, co-ordinate and monitor the national waste management system, administer nationally based waste management programs (such as for hazardous wastes, product stewardship etc.), administer complex private sector participation, provide advice, guidance and capacity development assistance to the other levels of Government to enable them to perform their functions, and create an inspectorate to advise on and enforce the law

## Regional/Atoll Waste Administration

- The Regional/Atoll Waste Administration will be responsible for developing regional waste management plans, implementing operational policies and guidelines and complying with legislation of the Central Waste Administration. The regional Atoll Waste Administration will coordinate with the Island Waste Administrations and the atoll authorities within its catchment and administer arrangements for the operation of the Regional Waste Management Facility

## Island Waste Administration

- Each Island Waste Administration will be responsible for developing island based waste management plans, implementing operational policies and guidelines and complying with regulations. They will administer local arrangements for waste collection, Island Waste Management Centre operations, fee collection, simple private sector participation and co-ordinating waste transfer activities with the Atoll Administration, Regional Waste Administration and/or private sector contractor

# Islands are taking steps to make the transformation from waste to resource management

Island Council	Island Waste Management Plan	Island Waste Management Centre	Current waste collection system
GA Kodey	Drafting	Not yet	Not available
GD Nadella	Drafting	Construction is complete	Planning stage
GA Nilandhoo	Drafting	Construction is on-going	Planning stage
GD Thinadhoo	Waiting for approval	Construction is on-going	Operational
GA Viligilli	Drafting	Construction is on-going	Operational
GD Vaadhoo	Waiting for approval	Construction is complete	Planning stage
GA Dhevvadhoo	Drafting	Construction is complete	Not available
GD Faresmaathodaa	Plan is being amended	Construction is complete	Operational
GA Dhaandhoo	Drafting	Construction is on-going	Planning stage
GD Hoadedhoo	Approved	Not yet	Planning stage
GA Gemanafushi	Waiting for approval	Construction is complete	Planning stage
GD Fiyori	Drafting	Construction is complete	Planning stage
GA Kolamaafushi	Approved	Construction is on-going	Operational
GD Rathafandhoo	Not yet	Construction is on-going	Not available
GA Kanduhulhudhoo	Approved	Construction is on-going	Not available
GD Gadhdhoo	Drafting	Construction is complete	Planning stage
GA Maamendhoo	Drafting	Construction is complete	Not available
GD Madaveli	Drafting	Construction is complete	Planning stage

# What is Next Step!

- Lets work-together to make this regional strategy be a reality
- 5 islands have selected as model projects
- Learning will be documented and shared with all other islands





# Thank You